

## Industry Employment Forecast

Before using the data in these reports, readers should understand the methodology and note its limitations. The projections presented should be viewed as indicators of relative magnitude and probable direction rather than as forecasts of absolute industry employment demand. Furthermore, the industry employment forecasts are only measures of expected employment and demand for labor and indicate little about future labor supply. It is therefore recommended that these data be used with other sources of industry and economic information.

Employment projections by industry provided in this publication were developed by the Economic Analysis Office (EAO) within the Office of Employment and Population Statistics (EPS) of the Arizona Department of Administration (ADOA). The data used in the projections process was developed by the US Department of Labor, Bureau of Labor Statistics (BLS) in cooperation with the Labor Statistics Office (LSO) within EPS.

The industry projections are broken down by the state and sub-state geographic regions. These include the state of Arizona and the metropolitan statistical areas (MSA) of Phoenix and Tucson. The Phoenix MSA consists of the counties of Maricopa and Pinal while the Tucson MSA includes Pima County. The Balance of State (BOS) region includes all of the counties of the state of Arizona with the exception of Maricopa, Pinal and Pima.

### Methodology:

1. Economic indicator data is gathered from state, local, regional, national and international sources to construct a leading index to predict the overall direction of the state economy.
2. Industry employment data is compiled from the BLS data programs of Current Employment Statistics (CES) and Quarterly Census of Employment and Wages (QCEW). These programs survey and capture data only on those establishments that are covered by the unemployment insurance programs. Hence, covered employment does not include self-employed, unpaid family workers or agricultural workers.
3. A fraction of the industry employment is assumed to be self-employed, unpaid family workers, or agricultural workers. The fraction is determined from national surveys and is added to the state and sub-state industry employment data.
4. Each industry's total employment (covered + self employed or unpaid family workers) is calculated by adding the data described in steps 2 and 3. Historical total employment data for each industry in addition to other information is used to generate industry level forecast. The base year of the forecast refers to the last year of historical data used in projections. The industry projections are developed using Projections Managing Partnership (PMP) software.

5. Mathematical models are developed for each sub-sector within the larger industry aggregation scheme across various geographies. Leading index from step one, historical sub sector total industry employment and other indicators are used as possible independent variables in the modeling process.
6. Models are developed for Arizona, Phoenix MSA, Tucson MSA and Balance of State (BOS) geographic regions. The BOS region is Arizona minus the sum of the Phoenix and Tucson MSA's.
7. Sub sector industry models are aggregated to form the major industry sectors, which in turn get aggregated to provide Nonfarm employment for the specific geographic area.
8. Projections are further adjusted based on additional information available from press release articles, third party projections, and other relevant data. To avoid the possible disclosure of confidential employer information, some employment data is suppressed before its release.